

IMPROVED TRACEABILITY OF THE FOOD SUPPLY

By

Bradley Andrus

UNITED STATES FOOD LAWS AND REGULATIONS

Professor Neal Fortin

December 3, 2012

IMPROVED TRACEABILITY OF THE FOOD SUPPLY

TABLE OF CONTENTS

Introduction	1
I. The Two Main Laws	2
A. The Bioterrorism Act of 2002	2
B. The Food Safety Modernization Act of 2011	3
II. The Manufacturer's Point of View	3
A. Food Safety Aspect	4
B. Purely Economics	5
III. The Customer's Viewpoint	5
A. Consumer Confidence	6
B. Consumer Knowledge	6
IV. The Government's Position	7
A. Hands off Approach	7
B. Hurdles to Implementation.....	7
Conclusion.....	8

IMPROVED TRACEABILITY OF THE FOOD SUPPLY

Bradley Andrus

INTRODUCTION

Traceability has been and will continue to be a growing concern in the food industry. No longer do consumers simply walk to their local farmers market to pick up the days rations. Nor do today's manufacturers simply purchase raw ingredients from local vendors who they know and trust. Not to mention that in today's food supply; massive companies produce and manufacture goods that have the potential to reach millions of consumers. Therefore, there are two main aspects as to why the traceability of the food supply is of vital importance. They are the rapid recall of foods in the event of a foodborne illness and also better identification of food products in order to protect against fraud.

In the Food Safety Modernization Act (FSMA) of 2011, there are no definitive stances taken by the government in regards to traceability. This is not to say the framers of this Act were negligent in forecasting the importance of traceability. The government's intention was to allow the industry to administer the regulations as they interpreted them and to take ownership in creating a traceability system that can work.

The Bioterrorism Act of 2002 requires that each point along the food supply will establish and maintain records to pinpoint exactly where the product is going as well as where the product has been. This approach is commonly known as the "one step up and one step down" method.

This paper will examine the two major improvements to the Food Safety and

Modernization Act. Part I will focus on the two major laws, the Food Safety Modernization Act and the Bioterrorism Act (the Acts), and how these two Acts set forth a guideline to the traceability of food. Part II of this paper will investigate how the manufacturers are dealing with traceability. In Part III, an analysis of how the Acts affect the consumer will be explored. Part IV will examine how the government uses the Acts. And finally, this paper will show how the Acts can help to improve the overall traceability of the food supply.

I. THE TWO MAIN LAWS

The two main regulations set forth in dealing with the traceability of foods are the Bioterrorism Act of 2002 and the Food Safety Modernization Act of 2011. The FSMA strengthened and supported the Bioterrorism Act while building on some of the key elements in regards to tracing along the food chain and how companies have to self-regulate that chain.

A. The Bioterrorism Act of 2002

After the events of September 11, 2001 and subsequent terroristic threats, the government realized the need to bolster the safety of the nation's food supply. The government acted relatively quickly and a new era of food safety was born when President Bush signed the Public Health Security and Bioterrorism Preparedness and Response Act into law on June 12, 2002, otherwise known as the Bioterrorism Act.

The food supply is made up of many points along the way. Raw ingredient producers (farmers), processors, importers, distributors, retailers, manufacturers, and consumers all make up the various points along the chain. In terms of tracing food throughout the supply chain, the most important aspect of the Bioterrorism Act was that each point along the chain would need to account for where they received the food from and where the food ultimately ended up.

The method of "one up and one down" plays an important part when looking at the safety

of foods as it can aid in the rapid recall of tainted product.¹ It can also be used as a significant tool in maintaining a company's supply chain. How this method interacts and assists the various points along the chain will be discussed in following sections.

B. The Food Safety Modernization Act of 2011

The next logical step in improving the safety of the nation's food supply was to update and upgrade the Food Safety Modernization Act of 1938. As the country's food supply needs, as well as the threats to that supply, had evolved over the previous seventy years, so should the laws that regulate this ever-growing industry.

Section 204 of the FSMA simply states:

(b) Additional Data Gathering.--

(1) In general.--The Secretary, in coordination with the Secretary of Agriculture and multiple representatives of State departments of health and agriculture, shall assess--

(A) the costs and benefits associated with the adoption and use of several product tracing technologies, including technologies used in the pilot projects under subsection (a);

(B) the feasibility of such technologies for different sectors of the food industry, including small businesses; and

(C) whether such technologies are compatible with the requirements of this subsection.²

In the most basic terms, the government has not set forth definitive regulations on how the traceability of foods should occur. They have set forth pilot projects that were to involve the produce industry as that is one of the high risk industries when dealing with product recall and microbial issues. The theory is that once the procedure for produce is created, most other industries could use that as a guideline in order to implement their own traceability programs.

II. THE MANUFACTURER'S POINT OF VIEW

As manufacturers of food products, many companies are in the unique position that they handle both sides of the food chain. They receive raw ingredients from suppliers/importers and also provide finished goods to the consumers/exporters. This uniqueness leads the manufacturer

¹ Cowan, Jeff and others, 2012, Dairy, Deli, & Bakery Traceability Implementation Guide, GS1US

² Full Act may be viewed at www.fda.gov/food/foodsafety/fsma

to added responsibility in tracking each and every shipment of raw ingredients as well as the finished goods they produce.

A. Food Safety Aspect

Product recalls are a manufacturer's worst nightmare. They can cost money, time, resources, advertising good will, but most importantly the health and safety of their customers. In this way, food safety must take the top rung on the ladder of importance when looking at traceability through the eyes of the manufacturer.

The laws are relatively vague when presenting the manufacturer with the challenge of tracing food. The FDA wants the manufacturers to comply with all applicable protocols but they have yet to set forth concrete regulations. Luckily, industry has been quick to react and has come up with a new way to trace food items throughout the supply chain.

GS1, which is a non-profit organization, was developed to improve the traceability of the food supply worldwide. GS1 standards are the "common language of business" and provide the framework required to support the traceability business process.³ A key feature in these standards is the Global Trade Item Number (GTIN).

The GTIN is essentially the standard bar code or UPC most people are familiar with. Where the GTIN improves on the old UPC technology is that additional data can be stored on this coding system. This new data includes, lot coding, batch coding, production dates, expirations dates, country of origin information, net weight, and case count. With this added level of data and because each GTIN is unique to a company, tracking of products involved in the case of a recall is improved.

³ Full text may be viewed at www.gs1.org/overview

B. Purely Economics

Though very important, food safety is not the only reason the manufacturer should care about product tracking. Companies have not only their customers to keep happy as they also must satisfy their shareholders, employees, and owners. A major recall could cripple a company economically in ways not many other incidents can.

Improved tracking technology can also improve how recalls are handled in an efficient manner. When a recall occurs the first thing the company will try and do is locate and account for the entire tainted product. Without proper batch coding or lot coding, this task becomes very difficult to pin point which box or case contains the bad product. If the company is not able to pinpoint which case is bad, a lot of perfectly fine product may be destroyed in order for the company to be safe in recalling all potentially adulterated products.

When the source of a 2006 E-coli outbreak at Taco Bell caused by lettuce could not be located, a comprehensive lettuce recall-both tainted and good product-throughout the lettuce supply chain was necessary.⁴ This lapse in food traceability significantly increased costs while harming the company's reputation and future sales. With proper tracking of all products, the company could have saved a lot of money by not having to dispose of perfectly good lettuce.

III. THE CUSTOMER'S VIEWPOINT

The customer is in a strenuous spot along the food chain as they are the last group and ultimately the consumers of the product. If the food is adulterated or tainted in anyway, it may be too late at this point to prevent illness to the consumer. This is added reason as to why the traceability of food needs to be done correctly, prior to the product reaching the customer's plate.

⁴ Zhang, J. (2007, March 13). Tailing Virulent Veggies; Produce Industry Develops Means to Pinpoint Origin of Contaminated Products, The Wall Street Journal, p. b1

A. Consumer Confidence

When a customer purchases a product they want to know that it is of good quality and safe to consume. It is not the consumer's responsibility to make sure the food is safe. However, it is their job to cook and properly handle the product.

In this way, the consumer can be the most vulnerable point along the food chain. Without the ability to keep the food safe, the consumer relies almost exclusively on the points upstream along the food chain.

The consumer puts a great deal of trust in the food chain as a whole. They trust that the manufacturers and raw ingredient suppliers are truthful and provide what they say they are. They put great trust in the various government agencies that regulate and inspect the food chain. Unfortunately, with all of this trust there also came a large amount of disappointment if that confidence is ever broken.

B. Consumer Knowledge

To most consumers, the barcodes they see on most products they purchase are nothing more than a few black lines that get scanned at the checkout. This of course is not the case and with a little bit of wherewithal, the consumer can gain the knowledge needed to fully benefit from all that the tracking system has to offer. And in this way, they may develop a better understanding of the complexities involved in keeping foods safe.

It is not to say that the consumer has no bearing on the tracking of foods. With the addition of lot coding and expiration date coding, using the GTIN system, the consumer can now play a greater role in making sure the foods they eat are wholesome and fresh.

Taking the case of the newly printed expiration date, the consumer can and should refuse to purchase a product that is out-of-date. They should also take things a step further and report the outdated product to the retailer. In this way, the consumer is helping to keep unwanted

products from reaching other fellow consumers.

The other piece of knowledge the consumer will have with the greater traceability in the supply chain will be that of removing products that have been recalled. With better tracking systems, retailers can report and alert recalls to their customers via the numerous in-store loyalty cards that many retailers offer. In doing this, a buyer's shopping history would be tracked and when a recall occurred, a notification could be sent very quickly to all of those customers who had purchased that product.

IV. THE GOVERNMENT'S POSITION

The Food and Drug Administration is the all-encompassing body involved with the nation's food supply. They regulate at the beginning of the process and also clean up the mess of a recall if need be. With that being said, the government has an extremely important job as well as an enormous hurdle in order to complete their task.

A. Hands off Approach

As mentioned earlier in this piece, the government has not mandated much of anything in regards to traceability. They have made suggestions and are beginning to see the results of a few pilot programs implemented. It has been their approach to not only allow the industry to regulate them, but to also come up with the next great idea in food traceability.

This is not to downplay the importance in the government's role. As they act as a police force, the government needs the industry to take it upon themselves to make sure that food can and will be traced. The government is there to push the industry in the right direction. They do not make requirements of how companies get to the end as long as the end meets the government standards.

B. Hurdles to Implementation

As with many government programs, there are obstacles in place that may hinder the

implementation of these regulations. The entire Food Safety Modernization Act of 2011 has been the legislation on the books since President Obama signed it into law. It would be negligent to omit the fact that this sweeping food safety legislation has not been fully funded. To this date, the FSMA has not been fully implemented.

Many in industry have taken it upon themselves to improve the global tracking of the food supply. Organizations like the GS1 have lessened the load financially to the government by investigating ideas and programs that may improve the traceability of foods. The economics of implementing food traceability standards will remain to be the limiting force for the FDA.

CONCLUSION

Many aspects of the food supply chain are involved in making the food as safe as possible. Working together and continuing to improve upon existing regulations and overcoming inherent hurdles involved in a task this large, will ultimately get the industry where it wants and needs to be.

With proper funding, the government will be able to take the steps necessary in fulfilling the potential of the traceability standards they suggested when the Food Safety Modernization Act was put into law. Until that time, it will be the food industry's responsibility to create, regulate, and monitor amongst them. By doing so, the industry can ensure a healthy, wholesome, and well tracked food supply.

By creating a universal tracking system, the industry will be more efficient at tracing the product from "farm to fork". This is an important improvement over existing laws in that it will modernize and make industry standards for traceability, which will in turn provide for a safer food supply throughout the entire food chain.